

Having described the invention, we claim:

1. A method for replacing a damaged spinal disc between first and second vertebrae of a spinal column comprising:

connecting a first mounting member with the first vertebra of the spinal column;

moving an artificial disc between the first and second vertebrae and into engagement with the first mounting member to guide the artificial disc into position between the first and second vertebrae, the artificial disc including a resilient core having a first surface and a second surface, a first retaining member connected to the first surface of the resilient core, and a second retaining member connected to the second surface of the resilient core, the first retaining member having an outer surface engageable with a first vertebra of the spinal column and an inner surface facing the first surface of the resilient core, the second retaining member having an outer surface engageable with the second vertebra of the spinal column and an inner surface facing the second surface of the resilient core.

2. A method as defined in claim 1 further including engaging the first mounting member with a guide on the first retaining member to guide movement of the first retaining member into position between the first and second vertebrae.

3. A method as defined in claim 2 wherein said step of engaging the first mounting member with the guide on the first retaining member includes engaging the first mounting member with a guide extending from the outer surface of the first retaining member and engaging the first vertebra with the guide.

4. A method as defined in claim 1 further including engaging the first mounting member with first and second guides extending generally parallel to each other on the first retaining member to guide movement of the first retaining member into position between the first and second vertebrae.

5. A method as defined in claim 1 further including engaging the first mounting member with a stop on the first retaining member to prevent relative movement between the first retaining member and the first mounting member in a first direction.

6. A method as defined in claim 5 further including guiding movement of the first retaining member relative to the first mounting member in a second direction extending transverse to the first direction.

7. A method as defined in claim 1 further including guiding movement of the first mounting member into an opening in the first retaining member.

8. A method as defined in claim 1 wherein the step of connecting the first mounting member with the first vertebra includes engaging the first mounting member with a surgical tool for connecting the first mounting member to the first vertebra.

9. A method as defined in claim 8 wherein the step of engaging the first mounting member with the surgical tool includes extending a portion of the surgical tool into a recess in the first mounting member.

10. A method as defined in claim 1 further including spacing an inner surface of the first mounting member that faces the core from the core.

11. A method as defined in claim 1 further including connecting the artificial disc to the first mounting member.

12. A method as defined in claim 11 wherein the step of connecting the artificial disc to the first mounting member includes preventing movement of the first mounting member relative to the artificial disc.

13. A method as defined in claim 12 wherein the step of preventing movement of the first mounting member relative to the artificial disc includes connecting the artificial disc to the first mounting member with an interference fit.

14. A method as defined in claim 13 wherein the step of connecting the artificial disc to the first mounting member with an interference fit includes engaging a frustoconical surface on the artificial disc with a frustoconical surface on the first mounting member.

15. A method as defined in claim 1 further including connecting a second mounting member to the second vertebra, said step of moving the artificial disc between the first and second vertebrae including engaging the second mounting member with the artificial disc to guide movement of the artificial disc into position between the first and second vertebrae.

16. A method as defined in claim 15 further including engaging the first mounting member with a first guide on the first retaining member to guide movement of the first retaining member into position between the first and second vertebrae and engaging the second mounting member with a second guide on the second retaining member to guide movement of the second retaining member into position between the first and second vertebrae.

17. A method as defined in claim 16 wherein the step of engaging the first mounting member with the first guide on the first retaining member includes engaging the first mounting member with the first guide extending from the outer surface of the first retaining member and engaging the first vertebra with the first guide, the step of engaging the second mounting member with the second guide on the second retaining member including

engaging the second mounting member with the second guide extending from the outer surface of the second retaining member and engaging the second vertebra with the second guide.

18. A method as defined in claim 15 further including engaging the first mounting member with first and second guides extending generally parallel to each other on the first retaining member to guide movement of the first retaining member into position between the first and second vertebrae, and engaging the second mounting member with third and fourth guides extending generally parallel to each other on the second retaining member to guide movement of the second retaining member into position between the first and second vertebrae.

19. A method as defined in claim 15 further including engaging the first mounting member with a first stop on the first retaining member to prevent relative movement between the first retaining member and the first mounting member in a first direction and engaging the second mounting member with a second stop on the second retaining member to prevent relative movement between the second retaining member and the second mounting member in the first direction.

20. A method as defined in claim 19 further including guiding movement of the first retaining member relative to the first mounting member in a direction extending transverse to the first direction and guiding movement of the second retaining member relative to the second mounting member in a direction extending transverse to the first direction.

21. A method as defined in claim 15 further including guiding movement of the first mounting member into an opening in the first retaining member and guiding movement of the second mounting member into an opening in the second retaining member.

22. A method as defined in claim 15 wherein the step of connecting the first mounting member with the first vertebra includes connecting the first mounting member with a surgical tool for connecting the first mounting member to the first vertebra, the step of connecting the second mounting member with the second vertebra including connecting the second mounting member with the surgical tool for connecting the second mounting member to the second vertebra.

23. A method as defined in claim 22 further including moving the first and second mounting members away from each other to connect the first and second mounting members to the first and second vertebrae.

24. A method as defined in claim 22 wherein the step of connecting the first mounting member with the surgical tool includes extending a first portion of the surgical tool into a recess in the first mounting member, the step of connecting the second mounting member with the surgical tool including extending a second portion of the surgical tool into a recess in the second mounting member.

25. A method as defined in claim 15 further including spacing an inner surface of the first mounting member that faces the core from the core and spacing an inner surface of the second mounting member that faces the core from the core.

26. A method as defined in claim 15 further including connecting the artificial disc to the first and second mounting members.

27. A method as defined in claim 26 wherein the step of connecting the artificial disc to the first and second mounting members includes preventing movement of the first and second mounting members relative to the artificial disc.

28. A method as defined in claim 27 wherein the step of preventing movement of the first and second mounting members relative to the artificial disc includes connecting the artificial disc to the first and second mounting members with interference fits.

29. A method as defined in claim 28 wherein the step of connecting the artificial disc to the first and second mounting members with interference fits includes engaging frustoconical surfaces on the artificial disc with frustoconical surfaces on the first and second mounting members.

30. A method as defined in claim 1 wherein the step of moving the artificial disc between the first and second vertebrae includes connecting a surgical tool to a first portion of the first retaining member.

31. A method as defined in claim 30 wherein the step of moving the artificial disc between the first and second vertebrae includes connecting the surgical tool to a second portion of the second retaining member.

32. A method as defined in claim 31 wherein the step of connecting the surgical tool to the first portion of the first retaining member includes extending a first portion of the surgical tool into a first opening in the first portion of the first retaining member.

33. A method as defined in claim 32 wherein the step of connecting the surgical tool to the second portion of the second retaining member includes extending a second portion of the surgical tool into a second opening in the second portion of the first retaining member.